E&MJ METAL AND MINERAL MARKETS

WEEKLY MARKET INFORMATION ISSUED BY THE PUBLISHERS OF ENGINEERING AND MINING JOURNAL

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THIS WEEK IN THE MARKETS . . .

- **Anaconda's Chuquicamata mine in Chile down on higher wage demands.**
- **Two-price U. S. market continues—Fabricators obtaining good tonnages.**
- **Tin higher on threat of strike at Penang smelter—Quicksilver advances.**

COPPER—Domestic average 43.665c, ref'y.

Just as the copper market began breathing a little easier, fresh complications set in. Word reached here yesterday that Anaconda's Chuquicamata mine in Chile was down as workers struck for higher wages. There is a good chance that the Government will intervene to end the strike. Chuquicamata has been producing at the rate of 18,000 tons a month.

London Metal Exchange quotations were unsettled, with the trend downward until yesterday. The spread between spot and three months narrowed to around £3 per long ton.

Arthur S. Flemming, head of ODM, told consumers that a request made recently to release stockpile copper is being studied. He pointed out that copper now in the stockpile could be released only to "meet a national emergency and for the common defense." The present situation hardly meets these conditions.

The leading interest advanced copper sulphate on Sept. 19 to 14.9c per pound.

LEAD—15c, N. Y. (f.a.s. Gulf 13½c)

Buyers were in the market for good tonnages of lead. Sales in the domestic market for the week totaled 12,018 tons, or well above the average of recent weeks. The undertone was quite firm. However, quotations were maintained on the basis of 15c, N. Y., and 14.80c, St. Louis. The London market was moderately lower, compared with a week ago.

During July, the U. S. imported 22,045 tons of pig lead, of which 9,195 tons consisted of Mexican metal. When later statistics are available they should reveal that imports continued at a high level through August and September. Strikes here accounted for much of the upturn in imports.

ZINC—13c, East St. Louis (f.a.s. Gulf 11¼c)

Though the market for zinc was not particularly active during the last week, the price situation was unchanged with the undertone firm. Interest centered largely in the die casting grade, which has been moving into consumption at a record rate. Special High Grade is in a tight position abroad as well as here.

Considerable interest was shown in the drive by die casters for a more stable market in zinc (see page 2). C. R. Ince, vice president of St. Joseph Lead, discussing the subject at the recent meeting of the American Die Casting Institute, said he saw little or no change in the zinc price in the next few months "or possibly throughout 1956."

PLATINUM—$91-$96 per oz

A major refiner is selling at the $91-$94 price range and dealers have been getting up to $96. Prices in Paris are close to $95 and in other European cities about $94. Most factors expect the market to remain tight and suggest only heavy sales by the U.S.S.R. could change this in the near future. We estimate the average price at $93.

ALUMINUM—Pig 22.5c; ingot 24.4c.

Primary aluminum output in the U. S. in August was 133,551 tons, a new high. Some firms are surprised that the Government is planning to "pay back" 11,000 tons of aluminum to the U. K. with the present shortage here. There are suggestions that Olin-Mathieson will be granted fast tax-write-off and other measures to assist the firm to get into primary aluminum production.

TIN—97⅜c, prompt, N. Y.

Demand for tin has improved, particularly in London, where operators became nervous over the possibility that the smelter in Penang (3,200 tons a month) may be strikebound early in October unless demands of the workers are met. The New York market absorbed some good tonnages of nearby and forward metal. The spread between prompt and November metal continued at about 1c a pound.

QUICKSILVER—$265-$270, N. Y.

Buying of quicksilver has improved sufficiently to absorb the moderate offerings now on the market. Business was noted during the last week at prices ranging between $265 and $270 per flask, spot and nearby delivery, up $5 per flask from a week ago. Spanish metal now available sold at $270, immediate delivery. On forward business $265 could have been done in more than one direction.

SILVER—90¾c, N. Y. (London 79½d)

Demand for foreign silver for coinage and industrial purposes has continued to support the price structure.

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Record Rate of Production of Die Castings for 1955— Industry Greatly Concerned Over Metal Shortages

Greatly increased acceptance of die castings in all phases of industry is reflected in current statistics on production, according to David Laine, executive secretary of the American Die Casting Institute. Speaking at the annual meeting of the Institute, held recently in Chicago, he revealed solid gains in consumption of both zinc and aluminum die castings in widely diversified areas. Gains have been made in such fields as electrical appliances, business machines, electronic components, plumbing fixtures, machinery and air conditioning. Use of die castings in automobiles made further progress.

Based on figures for the first half of 1955, consumption of zinc die castings will be in excess of 325,000 tons this year, a new high. In the case of aluminum, whose growth as a die casting metal has been phenomenal, a total of 185,000 tons is expected to be consumed by the end of 1955, Mr. Laine said.

Metal Supply and Price

Institute spokesmen pointed out that these sharply increased requirements for both zinc and aluminum have made the question of metal market conditions in the fourth quarter of this year and in 1956 of prime importance to the die casting industry. Because of this situation, a special panel session on zinc and aluminum supply and price control was the outstanding feature of the meeting. Discussion by distinguished representatives from both the aluminum and zinc industries made this session both lively and interesting.

The tightness of the supply of aluminum which caused ADCI to request stockpiling relief earlier this year has not eased. While casting ingot, both primary and secondary, remains short, the die casting market is expanding rapidly. Future supply for expanding needs is a major concern to the industry and its suppliers.

Speaking as a primary producer, Don Wilmot, vice president in charge of products and distribution for the Aluminum Company of America, noted that aluminum die casting increased 3.5 fold since 1947, which compares with a 2-fold increase in all aluminum manufactured products in the same period. Fixing responsibility for the shortage of aluminum casting ingot on Government stockpiling policies, he remarked that the Industry Advisory Committee had recently made two recommendations to ODM which would help relieve the shortage: (1) That there be no aluminum stockpiling in the fourth quarter of 1955; and (2) that a definite limit should be placed on export of scrap.

Robert K. Beck, president of Apex Smelting Co., touching on the price situation in secondary aluminum, placed responsibility on the fact that "customers of ingot shapes are forced to resort to conversion deals to obtain a portion of their metal supply. This factor, coupled with the direct purchases of scrap by primary producers, places a heavy strain upon the scrap market."

Leading off on zinc, W. J. During, president of the Institute, stated that the gyrations of the zinc market vitally affect our business.

H. L. Young, vice president of the American Zinc Sales Co., said the zinc producing industry realizes that die casters must price their finished product over a considerable period of time and there is a certain amount of speculation in metals which results from this pricing policy. He suggested that pricing deliveries of Special High Grade be made on the basis of the previous quarterly average price. If this method of pricing would benefit the industry, it might be possible for some zinc producers to acquire concentrates on this same basis.

C. R. Ince, vice president of St. Joseph Lead Co., saw little or no change in the zinc price in the next few months for the die casting industry "or possibly throughout 1956." On availability, he declared domestic smelters are taking active steps to increase output of Special High Grade zinc, partially by converting lower-grade zinc to Special High quality metal.

Award Presented to Pack

Charles Pack, formerly vice president of the Doehler-Jarvis Div., National Lead Co., and at one time president of Doehler-Jarvis Corp. received the annual Doehler Award for outstanding contribution to the die casting industry.

Mr. Pack, in accepting the award, pointed out that the job shop die casting industry is fitting naturally into the "age of automation." Machines are now larger, operate at high speed, and are adapted to the needs of modern high volume production of precision metal parts. Viewing the next half century, Mr. Pack drew attention to the four basic groups of die casting alloys: zinc, aluminum, magnesium and copper. He paid particular attention to the metal supply situation in zinc and aluminum: discussing zinc, he cited a disturbing economic factor — metal price fluctuations. Talking on aluminum, Mr. Pack made the statement that, "despite increased virgin production, the supply of aluminum has been unable to meet the demand."

According to Mr. Pack, magnesium die castings have yet to find as extensive application as aluminum, even though their extreme light-weight assures them of a bright future. Mr. Pack sees copper and copper-base alloys as "luxury" metals right now, because of limited die life; however, the cooperative industry research program currently in effect promises to solve this long-standing problem.

William J. During, president of Precision Castings Co., Syracuse, N. Y., was re-elected president of ADCI for the 1956 term. George Ralls, president, Pressure Castings, Inc., Cleveland, Ohio, was re-elected vice president. David Laine and W. J. Parker, American Die Casting Institute, were re-elected secretary and treasurer, respectively.

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First Half 1955 Chrome Ore Consumption at Record Rate

Consumption of chrome ore in the first half of 1955 was the highest in history for a six-months' period, totaling 727,633 short tons. On an annual basis this is equivalent to 1,455,266 tons, against 913,973 tons in 1954 and 1,333,755 tons in 1953, according to the Bureau of Mines.

In June, consumption of chrome ore for all purposes rose 8% over May to 130,972 tons. Consumption in the second quarter of the current year was estimated at 384,764 tons, against 342,869 tons in the first quarter.

Use of chrome ore by grades during 1954 and the first half of 1955, in short tons, gross weight:

	Year 1954	Jan.-June 1955
Metallurgical	502,279	437,979
Refractory	278,324	213,733
Chemical	133,370	75,921
Totals	913,973	727,633

Stocks of chrome ore at the end of 1954 and on June 30, 1955, in short tons, by grades:

	End of 1954	June 30, 1955
Metallurgical	803,889	670,773
Refractory	257,451	219,739
Chemical	206,477	179,029

Stainless steels accounted for 67.5% of the total tonnage of chrome ore consumed in the production of chromium alloys and chromium metal in the Jan.-June period of 1955. High speed steels took 0.5%; high temperature alloys 3.2%; other alloy steels 27.2%; and other uses 1.6%.

Domestic mines shipped 71,938 short tons of chrome ore in the first half of 1955, an average of 11,990 tons a month. During 1954, shipments averaged 13,312 tons a month.

Imports of chrome ore into the U. S. during June and the first half of 1955, in long tons:

	June 1955	Jan.-June 1955
Metallurgical grade:		
Canada	218	218
Cuba	....	3,100
Fed. of Rhodesia and Nyasaland	23,239	105,893
Greece	1,248	1,248
Guatemala	....	531
India	....	3,004
New Caledonia	....	8,330
Pakistan	....	5,694
Philippines	....	18,900
Turkey	30,751	201,473
Union of So. Africa	9,172	21,047
Yugoslavia	3,000	3,000
Totals	67,628	372,438
Refractory grade:		
Cuba	....	19,066
Fed. of Rhodesia and Nyasaland	....	5,954
Greece	50	50
India	1,950	7,543
Philippines	48,639	208,527
Union of So. Africa	3,009	17,071
Yugoslavia	....	5,220
Totals	53,648	263,431
Chemical grade:		
Union of So. Africa	6,497	80,706
Totals, all grades	127,773	716,575

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ALVIN W. KNOERR.....*Editor*
H. H. WANDERS..*Senior Associate Editor*
G. H. CLEAVER.....*Associate Editor*
C. J. COASH.....*Publisher*

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U. S. Copper Production Returning to Normal Rate

The latest statistics of Copper Institute indicate that production is on its way back to normal at U. S. mines, smelters and refineries struck during July and part of August.

Crude primary output in the U. S. increased from 31,846 tons in July to 67,635 tons in August. Refined copper production increased from 51,182 tons in July to 98,732 tons in August.

Deliveries to U. S. fabricators totaled 90,078 tons in August. Deliveries in the Jan.-August period totaled 881,473 tons, or an average of 110,184 tons a month. In the three months ended August U. S. deliveries averaged 94,317 tons a month.

Combined U. S. and foreign production of crude in August was 196,862 tons, against 167,746 tons in July and 232,058 tons in June.

The July and August statistics are summarized as follows, in tons:

United States

Production:	(a) July	Aug.
Crude primary	31,846	67,635
Crude secondary	7,614	9,372
Totals	39,460	77,007
Refined copper	51,182	98,732
Deliveries, refined	60,143	90,078
Stocks at end, ref'd	36,293	49,350

Outside United States

Production:	(a) July	Aug.
Crude, primary	135,900	129,227
Crude, secondary ...	765	774
Totals	136,665	130,001
Refined copper	108,317	110,792
Deliveries, refined	89,500	111,251
Stocks at end, ref'd ..	183,350	180,672

(a) Corrected figures.

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Bunker Hill to Buy Hecla's Share in Sullivan Mining

Bunker Hill and Sullivan Mining and Concentrating Co., which holds 50% of the stock in Sullivan Mining Co., intends buying the other 50% now held by Hecla Mining Co. Bunker Hill will pay 275,000 shares of its own stock for the Sullivan stock.

Bunker Hill also plans to buy Hecla's holdings of 494,696 shares of Pend Oreille Mines and Metals stock for $2,102,208. Bunker Hill will then own 36% interest in Pend Oreille and Hecla will get a 17% interest in Bunker Hill's common stock. Bunker Hill and Hecla stock owners will vote on the proposals Oct. 26. An increase in Bunker Hill authorized common stock to 2-million shares from 1,308,000 will need to be approved by stockholders.

Bunker Hill has been operating Sullivan Mining Co.'s zinc smelter for the joint ownership — Sullivan produces zinc and sulphuric acid. Bunker Hill already owns an interest in Pend Oreille. Hecla has been operating Sullivan Mining's mine at Burke, Idaho.

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Harvey Aluminum Plant Adds 54,000 Tons to U. S. Capacity

General Services Administration signed a contract on Sept. 13 which will add 54,000 tons annually to U. S. capacity to produce primary aluminum. The contract is with the Harvey Machine Co., Torrance, Calif.

In announcing the action, Edmund F. Mansure, administrator of General Services, said the contract calls for the company to begin promptly with the construction of new aluminum facilities at The Dalles, Oregon, and to produce and sell 270,000 tons of metal by June 30, 1963.

"The contract brings a new primary aluminum producer into the field of producing the nation's supply of this crucial metal," Mr. Mansure said. Harvey Machine Co. will become the fifth producer of primary aluminum, along with the Aluminum Company of America, the Reynolds Metals Co., Kaiser Aluminum and Chemical Corp., and the Anaconda Co.

A. J. Walsh, commissioner of GSA's Emergency Procurement Service, signed the contract for the Government. The cost of the new facilities is estimated at $65,000,000.

"Harvey intends to finance the expansion from private sources with such assistance as is necessary being given under the Defense Production Act by means of loan guarantees and advance payments for aluminum production," Mr. Walsh said.

"The Government, for the life of the contract, will have first call on production, the requirements of non-integrated users will be satisfied by the same formula which exists in Government contracts now operating with other companies."

The signing converts into a contract a letter of intent which GSA gave Harvey in 1953. The new contract was executed immediately after the Harvey Machine Co. entered into a separate agreement with the Bonneville Power Administration for the power lines and power necessary to operate the new plant.

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National Lead Subsidiary

National Lead Co. has formed a new Australian subsidiary, Mineral Deposits Pty. Ltd. This is an expansion of the company's operations in that country. The new corporation has acquired the mine, plant and leases of Mineral Deposits Syndicate, and will be owned 80% by National Lead and 20% by former Australian owners. The new company will mine, concentrate and export rutile and ilmenite, raw materials for the production of titanium metal and oxide. Other minerals produced will be zircon and monazite. The mine and plant are in Southport, New South Wales.

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Molybdenum Corp. Rare Earths

With respect to the rare earth mine of Molybdenum Corporation of America, at Mountain Pass, Calif., E. A. Lucas, executive vice president, told stockholders "we have worked out all of our major problems and we have a good process to produce the products we need. There is no question about the availability of the raw material." He said there is considerable experimentation in the use of rare earth products at steel mills.

Progress continues favorable at the company's columbium-tantalum ore discovery in Canada, he said.

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Cade President of Tennant

R. Bruce Cade, treasurer and director of C. Tennant, Sons & Co., has been named president of the organization. He succeeds Henry B. Van Sinderen, who will remain as chairman. Mr. Cade has been associated with the company for 29 years and has been an officer since 1941.

Richard D. Janson has been elected treasurer.

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Indonesia's Tin Production

Production of tin contained in concentrates in Indonesia during the eight months ended August 31 totaled 22,250 long tons. This compares with 22,863 tons produced in the corresponding period of 1954.

International Minerals and Metals Corporation

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COPPER, ZINC

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Miscellaneous Metals

Quotations cover wholesale lots, f.o.b. New York, unless otherwise specified.

ALUMINUM — Per lb., base price, f.o.b. shipping point, (freight allowed): 30 lb. ingot, 99% plus, 24.4c.; in pigs, 22.5c.

Base prices on aluminum ingot of higher purity: 99.75%, 24.9c.; 99.8%, 25.4c.; 99.85%, 26.4c.

ANTIMONY — Cents per lb., 99½% grade:

	Domestic Boxed (a) New York	Domestic Bulk (b) Laredo
Sept 15	36.470	33.000
Sept. 16	36.470	33.000
Sept. 17	36.470	33.000
Sept. 19	36.470	33.000
Sept. 20	36.470	33.000
Sept. 21	36.470	33.000

(a) Boxed (224 lb.) 10,000 lb. or more but less than carload. (b) In bulk, carload, f.o.b. Laredo; boxed one-half cent extra.

BISMUTH — Per lb., in ton lots, $2.25.

CADMIUM — Per lb., delivered.

	Commercial (a) Sticks	Special (b) Shapes
Sept. 15	$1.70	$1.70
Sept. 16	1.70	1.70
Sept. 17	1.70	1.70
Sept. 19	1.70	1.70
Sept. 20	1.70	1.70
Sept. 21	1.70	1.70

(a) Base price. (b) Special shapes to platers.

CALCIUM—Per lb., in ton lots, cast in slabs and small pieces, $2.05.

CHROMIUM — Per lb., 97% grade, 0.5% C, $1.25; 9-11% C, $1.34. (Usually sold as chrome-metal.)

Electrolytic chromium, commercial grade, 99% min., f.o.b. Niagara Falls, N. Y., per lb.: $1.25.

COBALT—Per lb., rondelles or granules, in 500 to 600 lb. containers, $2.60; in 100 lb. containers, $2.62; less than 100 lb. containers, $2.67. Prices ex. docks or store N. Y. or Niagara Falls.

Cobalt fines, $2.60 per lb. of Co contained, f.o.b. N. Y. or Niagara Falls, standard package of 650 lb.

COLUMBIUM — No quotation.

GALLIUM — Per gram, in 1,000 gram lots, $3; 1 to 999 grams, $3.25.

GERMANIUM — Per lb., $295.

INDIUM — Per oz. troy, 99.9%, $2.25.

IRIDIUM — Per oz. troy, $100@$110.

LITHIUM — Per lb. 98%, $11@$14.

MAGNESIUM — Per lb., 10,000 lb. lots: Pig ingot 99.8%, Freeport, Tex., 32.5c; Port Newark, N. J. 33.9c; Madison, Ill., 33.7c; Notched ingot, Freeport, 33.25c; Port Newark 34.7c; Madison, 34.5. Effective Aug. 16, 1955.

MANGANESE—Per lb., delivered, 95.5% Mn, 2 in. x down, carloads, bulk, 45c.; packed, 46¼c.

Electrolytic, per lb., f.o.b. Knoxville, Tenn., with freight allowed east of Mississippi; Min. 99.9% Mn.; Carload 30c.; ton lots, 32c. Premium for hydrogen-removed metal 0.75c, per pound.

MOLYBDENUM — Per lb., 99% $3.00.

NICKEL — Per lb., electrolytic cathodes, f.o.b. Port Colborne, Ont., contract price, 64½c, U.S. import duty included. Nickel oxide sinter, 60¾c per lb. of nickel content, f.o.b. Copper Cliff.

OSMIUM — Per oz., $80@$100, nominal.

PALLADIUM — Per oz. troy, $22@$24.

PLATINUM—Per oz. troy $91@$96. Our appraisal of average for week $93.00.

QUICKSILVER — Per flask of 76 lb, $265@$270.

RADIUM — Per mg. radium content, $16@$21.50, as to quantity.

RHODIUM — Per oz. troy, $118@$125.

RUTHENIUM — Per oz. troy, $45@$55.

SELENIUM—Producers quote $9@$10 per lb; distributors $10.50.

SILICON — Per lb., minimum, 97 percent Si, maximum 1 percent Fe, crushed, carload lots, in bulk, 20½c.

SODIUM — Per lb., carload lots, in drums, 16½c.; less than carload lots, 17c.

TANTALUM — Per kilo, base price, $137 for rod; sheet, $93.

TELLURIUM — Per lb., $1.75.

THALLIUM — Per lb., $12.50.

TITANIUM — Per lb., Grade A-1, 99.3% plus, maximum .3% iron, $3.95, f.o.b. shipping center. (On maximum .5% iron, $3.50). Effective April 1, 1955.

TUNGSTEN — Per lb., 98.8% minimum 1,000 lb. lots, $4.50. Hydrogen reduced, 99.9% plus $4.65.

VANADIUM — Per lb, 100-lb lots, $3.45.

ZIRCONIUM — Per lb., sponge, $10.

Metallic Ores

Prices in tons of 2,000 lbs., or "units" of 20 lb., unless otherwise stated.

ANTIMONY ORE—Per unit of antimony contained, 50 to 55%, $3.60@$3.70; min. 60% $4.20@$4.30; min. 65% $4.45@$4.55.

BERYLLIUM ORE — Per unit BeO contained, 10-12% f.o.b. mine, Colorado, $46@$48, depending on quantity.

Imported ore, per short ton unit of BeO, c.i.f. U.S. ports, basis 10% to 12% BeO, $36@$38.

CHROME ORE—Per long ton, dry basis, subject to penalties if guarantees are not met, f.o.b. cars N. Y., Phila., Balt., etc.

Rhodesian:
48% Cr_2O_3, 3 to 1 ratio lump (b) $43.00@$44.00
48% Cr_2O_3, 2.8 to 1 ratio... (b) $40.00@$41.00
48% Cr_2O_3, no ratio..... (b) $29.00@$31.00
South African (Transvaal):
48% Cr_2O_3, no ratio..... $31.00@$32.00
44% Cr_2O_3, no ratio..... $22.00@$23.00

Turkish (basis 48% 3 to 1):
48% Cr_2O_3, 3 to 1 ratio, lump and concentrates .....$52@$53
46% Cr_2O_3, 3 to 1 ratio, lump and concentrates .....$46@$48
Pakistan (Baluchistan):
48% Cr_2O_3, 3 to 1 ratio.....(a)$44@$45
(a) Nominal. (b) Long term contracts.

COBALT ORE — Per lb of cobalt contained, f.o.b. Cobalt, Ont., 9% grade, $1.30; 10%, $1.40; 11%, $1.50; 12%, $1.60.

COLUMBITE — Per lb of pentoxide, $2.00@$2.25, basis 50% Cb_2O_5. Nominal.

IRON ORE — Per long ton, Lower Lake ports. Lake Superior ore:

Mesabi non-bessemer, 51½% iron, $10.10. Old Range, non-bessemer, $10.25.

Mesabi, bessemer, 51½% iron, $10.25. Old Range, bessemer, $10.40.

Eastern ores, cents per long ton unit, delivered at furnaces: Foundry and basic, 56@62%, 17@18c.

Swedish, 60@68% (contracts), per unit, 22c plus, depending on grade, c.i.f. Atlantic ports.

Brazilian, per gross ton, 68.5% iron, f.o.b. port of shipment: Contracts $11.50 @$12.00; nearby business $12.25@$12.50.

MANGANESE ORE—Large-lot buyers refuse to meet higher prices asked by Indian shippers. Price situation firm.

Indian ore was quotable at 98c@$1 per long ton unit of Mn, c.i.f. U.S. ports, duty extra, basis 46 to 48% Mn, nearby positions.

On long-term contracts for ore from various sources, 46@48% Mn, quotations nominal at 94@96c, c.i.f. U.S. ports, duty extra.

Low iron, 48% Mn (max. 2% Fe), $1.02 per long ton unit of Mn, duty extra.

Chemical grade, per ton, coarse or fine, minimum 84% MnO_2, carloads, in drums $96; burlap bags $90.50 f.o.b. Philadelphia.

MOLYBDENUM ORE — Per lb of contained Mo, f.o.b. Climax, Colo., plus cost of containers, $1.05.

TITANIUM ORE—Per gross ton, ilmenite, 59.5% TiO_2, f.o.b. Atlantic seaboard, $20, nominal.

Rutile, per lb, minimum 94% concentrate, 10@15c, depending on time of delivery.

TUNGSTEN ORE — Per short ton unit of WO_3, concentrates of known good analysis, basis 65%:

Foreign ore, per short ton unit of WO_3, nearby arrival, c.i.f. U.S. ports, duty extra: Wolfram. $34.00@$34.50; scheelite $35.00@$35.50, depending on grade.

Western high grade scheelite concentrate, $63 per unit, f.o.b. mine.

North Carolina high grade concentrate, $63 per unit, f.o.b. mine.

London, per long ton unit of WO_3, buying prices, good ore: Wolfram 268s bid, 272s 6d asked.

METALLURGICAL CHROME ORE

SPOT DELIVERY
IN CARLOAD LOTS
FROM OUR BALTIMORE STOCKPILE

E. A. GODOY & CO., INC.
CUNARD BUILDING, 25 BROADWAY
NEW YORK 4, N.Y.

VANADIUM ORE — Per lb V_2O_5 contained, domestic, 31c, f.o.b. mine.

ZIRCON ORE (sand) — Per long ton, c.i.f. Atlantic seaboard, minimum 65% ZrO_2, $48@$49.

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Metallic Compounds

ANTIMONY TRIOXIDE — Per lb, carload lots, in bags, 27c; less than carload, 28½c.

ARSENIOUS OXIDE (arsenic trioxide), refined, white min. 99%, per lb, 5½c, in barrels carload lots delivered.

COBALT OXIDE — Ceramic grade 72½ to 73½% Co, $1.96 per lb east of Mississippi and $1.98½ per lb west of Mississippi. Quotations are for oxide packed in 350-lb containers.

COPPER SULPHATE — Per lb, in carload lots, 14.9c, large or small crystals, f.o.b. N.Y. Effective Sept. 19.

GERMANIUM OXIDE — Per lb, $142.

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Rolled Metals, Etc.

BRASS — Cents per lb (base prices)

	Sheet	Wire	Rods
Yellow Brass	52.27	52.81	(a) 42.41
Best quality brass ..	54.29	54.83	54.23
Red brass 80%	56.55	57.09	56.49
Red brass 85%	58.09	58.63	58.03
Com'l bronze 9%	60.18	60.72	60.12
Gilding metal	61.74	62.28	61.68

(a) Free cutting

CADMIUM — Per lb Special shapes, to platers, $1.70.

COPPER — Per lb Sheets, over 20 in. wide, 62.76c, rolls 20 in. and under, 60.79c; Wire, bare, carload lots f.o.b. mills 48.35c.

LEAD SHEETS — Per lb, full rolled, 140 sq ft, 20c.

MONEL METAL — Per lb (base prices) Standard cold-rolled sheet, 78c; cold-rolled strip, 87c. Rods, hot-rolled 69c.

NICKEL — Per lb (base prices) sheets, cold-rolled, $1.02; rods, hot-rolled, 87c.

NICKEL SILVER — Per lb, sheets, 10% 66c; 18% 69.63c; wire and rods, 10% 68.33c.

PHOSPHOR BRONZE — Per lb, sheets, 5% tin, 80.99c; wire and rods, 5% 81.49c; 10% 87.53c.

ZINC — Per lb, carload lots f.o.b. mill (base price): Sheet 23c; ribbon 20@20½c; plates 19½@22¼c, depending on size.

ZINC DIE-CASTING ALLOY — Ingot per lb, carload lots, delivered, 17¼@18¼c.

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United States Gold Price

The price paid by the United States Treasury for gold purchased by the mints continued at $35 per troy ounce of fine gold, less ¼ of 1%.

Actual payment by the United States Treasury for gold in imported and domestic ore or concentrate is at 99.75% of the price quoted by the Treasury, which at present is equal to $34.9125 per oz.

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Canada's Copper Production Rising—New Mines a Factor

Toronto (Reuters)—Sharp world demand has spurred Canadian copper production and started a rush of new development projects for the metal. Canadian copper production currently is running about 13% ahead of the same time last year and mining men expect an even bigger expansion as new mines come into production. Last year Canada produced 302,948 tons of copper. Production the previous year was 253,252 tons. This year copper production may reach 350,000 tons.

Most of this production will come from the country's nine major copper producing areas. These areas, from the west coast to Newfoundland, and the major mines in each area, are:

Northern British Columbia: Canam Copper Ltd. and Granduc Mines.

Flin Flon area of Manitoba: Hudson Bay Mining and Smelting Co.

Manitouwadge area of northwestern Ontario: Geco Mines Ltd. and Willroy Mines Ltd.

Sudbury area of Ontario: International Nickel Co. of Canada Ltd., Falconbridge Nickel Mines Ltd. and Consolidated Sudbury Contact Ltd.

Noranda area of eastern Quebec: Noranda Mines Ltd., Quemont Mining Corp. and Waite Amulet Mines Ltd.

Chibougamau area of north central Quebec: Opemiska Copper Mines (Quebec) Ltd., Campbell Chibougamau Mines Ltd., Chibougamau Explorers Ltd., Merrill Island Mining Corp. Ltd. and Copper Cliff Cons. Mining Corp.

Desten-Duparquet area of central Quebec: Lyndhurst Mining Co. Ltd. and Beattie-Duquesne Mines Ltd.

Gaspe area of central Quebec: Gaspe Copper Mines Ltd.

Newfoundland: Bathurst Mining Corp. and Maritime Mining Corp.

New Mines Increasing Share

Established producers will account for the lion's share of production but new mines and mills will play a growing part. The country's major producers — International Nickel, Hudson Bay, Waite Amulet, Granby Consolidated, Quemont and Falconbridge — accounted for some 250,000 tons, or five-sixths, of last year's production. Their production this year is expected to be in about the same proportion.

A good deal of this year's increase will come from some smaller established producers, such as Manitou, East Sullivan, Normetal, Opemiska and Sherritt-Gordon, and the new companies.

Three new copper producers began operations this year and a fourth is expected to start production in September. Campbell Chibougamau began operating its 1,750-ton a day mill in May and Chibougamau Explorers is expected to start its 750-ton unit in September. Another, Gaspe Copper, has its 6,500-ton mill in only partial operation, awaiting power line repairs. Tamagami Mining Co. started shipping from its high-grade open pit mine about the middle of August at the rate of 60 tons a day.

In the yet to begin production stage, Granduc Mines is concentrating on building up a large tonnage before announcing production plans. Canam Copper expects to be in large production early next year. Geco is planning a 3,300-ton milling unit to start early in 1957. Adjoining Geco, Willroy Mines has started underground work. Consolidated Basin Mines also plans to build up a large tonnage before announcing production plans.

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Pilot Plant for Manganese

Study of a newly developed process to treat low grade manganese ores will be undertaken on a pilot plant basis under terms of a contract announced last week between General Services Administration and Ores Beneficiation, Inc., of Joplin, Mo.

The contract calls for erection by the company of a pilot plant at Joplin and the running of full tests within the next 15 months. Employing a process developed by the Bruce Williams Laboratories, the new company will design a pilot plant to handle 300 pounds per hour of slags and low grade ores originating from Aroostook County, Maine, the Cuyana Range in Minnesota, and from ores found in Arkansas, Arizona, New Mexico and Mexico.

WATCH THESE TRENDS

(A regular feature usually appearing the third week of each month)

STAINLESS steel production in U. S. in 1954 dropped to 852,000 tons, but producers expect this year's production to equal or surpass 1-million-plus tons, the 1953 record. Providing adequate supplies of nickel can be obtained, production of stainless steel is expected to exceed 2-million tons annually by 1965. Already in solid in rocket planes, airplanes, pen points, cutlery, cannons, wire cable, automobiles and various gadgets, the stainless alloys are making inroads in architectural fields.

Socony-Mobil building in New York City will use 325 tons of stainless. Surface of building will have a self-cleaning design, which is expected to use rainfall to wash off grime. Hurricane-proof windows, tested successfully at University of Miami, are being readied by subcontractor. Windows will keep out water; even in winds up to 145 miles per hour.

Chicago will get its first stainless building when Inland Steel begins construction of newly planned home office.

TUNGSTEN distributor contacts with built-in ventilators are being produced by H. A. Wilson Co. New points have small hole punched through contact, which increases life span of the part by permitting air to circulate through hole. Air current is set up by rapid vibration of the distributor arc. Cooling the point reduces the effect of the arc between points; decreasing peaking and pitting. Next year's automobiles are expected to use this type of point. Wilson has also designed a machine to punch out holes at rate of several thousands per hour.

TITANIUM for contact parts of calcium hypochlorite filter has stood the test at Pennsylvania Salt Mfg. Co. Corrosive product was handled satisfactory in filter made of Rem-Cru titanium. Cambridge Wire Cloth Co. made the titanium screen cloth. American Welding & Mfg. Co., Warren, Ohio, made the filter chamber enclosure by the flash upset welding technique, using titanium from Rem-Cru Titanium Inc., Midland, Pa.

SILICON NITRIDE-SILICON-CARBIDE formula for intricate shapes has been announced by Carborundum Co., Niagara Falls, N. Y. Called Refrax, this bonded granular carbide can stand temperatures up to 3,000 deg F. Parts can be formed with plus or minus 0.005-in. tolerance. Resistant to acids, corrosive slags, chlorides and sulphates, but not alkalies. Bond in Refrax is near-metallic whereas bond in older silicon carbides is physical.

ALUMINUM-TIN alloys have been successfully bonded to steel through the efforts of the Tin Research Institute, Middlesex, England. Process calls for rolling aluminum sheet onto steel at room temperatures and then bonding aluminum-tin alloy to aluminum on the steel by rolling at 230 deg C.

MAGNESIUM consumption for 1955 has been estimated at about 61,000 tons of primary and secondary metal.

DIAMONDS from General Electric Co. research program are expected to reach commercial market stage in the next few years. Carboloy division of GE is going ahead to put man-made diamonds on the production line; making the U. S. self sufficient and independent of foreign industrial diamond market.

STAINLESS steel welding technique for pipe and tubing has been patented (No. 2,716,692) by Trent Tube Co., East Troy, Wis. Wholly-owned subsidiary of Crucible Steel has perfected a new technique for welding pipe and tube without a weld bead forming on the inside diameter. Tube is welded from underneath, permitting gravity to counteract formation of bead. Corrosion resistance, strength and hot and cold resistance have been improved.

MANGANESE in place of nickel in stainless steel has been the subject of considerable testing by Allegheny Ludlum Steel Corp., Brackenridge, Pa. Results indicate that new alloys, substitutes for hard-to-get high nickel alloys, can compete favorably with types 301 and 302. Not recommended for use in oxidizing atmospheres above 1500 deg F. Company recommends that care should be taken not to over pickle manganese alloys.

FERROMAGNETIC ceramics were studied by Massachusetts Institute of Technology under Government contracts to find the reason for wide variation in magnetic and electrical properties of material now on the market for electronics industry. Results indicated that magnetic and electrical properties were adversely affected by firing at too high temperatures and for too long a time.

ALUMINUM will be used to a great extent, both inside and outside, in the construction of Battelle Memorial Institute's "swimming pool" reactor. Exposed and submerged parts of the reactor will be made of aluminum, which is resistant to solvent action of the distilled water used in the pool.

NICKEL in the alloy Ni-Resist type 1 is being used to reduce damage due to wild burning in single-point fuel-injection engines. Button of nickel alloy is bonded to the piston at the point of crown erosion. Licensed by Al-Fin Division, Fairchild Engine & Airplane Corp., Hagerstown, Md.

STAINLESS CLAD STEEL will be used to build the 250,000-gal water storage tank at General Motors Technical Center. Type 304 finish ⅛-in. on ⅝-in. steel will be used. All seams will be welded.

STEEL TUBING with mirror-like finish is being produced by a refinement of cold-drawn electricweld method at Jones & Laughlin Steel Corp. Modification produces mirror-like finish on inside diameter which is reported to be superior to many honed finishes. Low in cost and suitable for use without machining in many applications which heretofore required high-priced machine finished material. Tubing is available in ¾- to 2¼-in. O. D.

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U. S. Fluorspar Output and Use Recover from 1954 Slump

Domestic production and shipments of fluorspar in the second quarter totaled 70,038 tons and 72,662 tons, respectively, according to the Bureau of Mines. This was a gain of about 23% in production and 21% in shipments, compared with the first quarter of 1955. Record usage in the production of hydrofluoric acid and increased consumption in the steel industry accounted for the rise.

Imports for consumption in the second quarter amounted to 87,257 tons, against 82,311 tons in the first quarter.

Consumption in the second quarter was estimated at 144,520 tons, against 131,486 tons in the preceding quarter. Consumption in the first half of 1955 was 276,006 tons, or an average of 46,001 tons a month. During 1954, the monthly rate of consumption was 39,887 tons.

Use of fluorspar (domestic and foreign) in the second quarter, and stocks at consumers' plants at the end of June, in short tons:

	Consumption Apr.-June	Stocks June 30, '55
Steel	62,672	91,375
Hydrofluoric acid	64,540	21,946
Glass	8,557	4,063
Enamel	1,904	1,119
All other	6,847	8,370
Totals	144,520	126,873

General imports of fluorspar in 1954 and the first half of 1955, in short tons, according to the Department of Commerce:

From:	Year 1954	Jan.-June 1955
Canada	57,990	27,161
France	221	....
Germany	35,682	9,774
Italy	49,201	26,880
Mexico	134,848	89,988
Spain	39,812	24,536
Tunisia	801	....
Totals	318,355	178,339

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U. S. Copper Stocks

Stocks of copper at primary smelting and refining plants in the U. S. at the end of period, in short tons, according to the Bureau of Mines:

	Refined Copper	Blister, Etc. (a)
1953	49,000	223,000
1954	25,000	189,000
1955:		
January	26,100	185,000
February	23,100	187,000
March	25,900	190,000
April	24,600	197,000
May	25,800	186,000
June	22,300	185,000
July	22,500	196,000

(a) Blister and materials in process of refining. Includes copper in transit from smelters in the U. S. to refineries.

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Quebec's Asbestos Output

Production of asbestos in the Province of Quebec in July was 79,617 tons, against 88,312 tons in June and 68,255 tons in July last year, the Department of Mines reports. Production in the seven months ended July totaled 554,614 tons, against 491,171 tons in the same period of 1954.

E&MJ QUOTATIONS

Daily Prices of Metals

Sept.	ELECTROLYTIC COPPER Domestic Refinery	ELECTROLYTIC COPPER Export Refinery	TIN Straits New York	TIN 99% (a) New York	LEAD New York	LEAD St. Louis	ZINC Delivered (b)	ZINC East St. Louis
15	43.850	43.500	96.250	95.250	15.000	14.800	13.500	13.000
16	43.675	43.800	96.250	95.250	15.000	14.800	13.500	13.000
17	No Market	43.650	96.250	95.250	15.000	14.800	13.500	13.000
19	43.650	43.425	96.750	95.750	15.000	14.800	13.500	13.000
20	43.675	44.075	97.125	96.125	15.000	14.800	13.500	13.000
21	43.475	43.450	97.375	96.375	15.000	14.800	13.500	13.000
Averages	43.665	43.650	96.667	95.667	15.000	14.800	13.500	13.000

(a) Nominal Quotation for tin content.

(b) Prime Western Zinc sold on delivered basis at centers where freight from East St. Louis exceeds one-half cent a pound.

Average Prices for calendar week ended Sept. 17 are: Domestic copper f.o.b. refinery, 44.045c; export copper, f.o.b. refinery 44.208c; Straits tin, 96.042c; New York lead, 15.000c; St. Louis lead, 14.800c; Prime Western zinc delivered 13.500c; East St. Louis zinc, 13.000c; and silver 90.750c.

The above quotations are our appraisal of the major United States markets, based on sales reported by producers and their agencies. They represent payments received by producers for the product. They are reduced to the basis of cash, New York or St. Louis, as noted. Prices in cents per pound.

Copper, lead and zinc quotations are based on sales for both prompt and future deliveries; tin quotations are for prompt delivery only.

In the trade, domestic copper prices are quoted on a delivered basis, that is, delivered at consumer's plants. As delivery charges vary with the destination, the figures shown above are net prices at refineries on the Atlantic seaboard. Delivered prices in New England average 0.300c. per pound above refinery basis.

Our export quotation for copper reflects prices obtaining in the open market and is based on sales in the foreign market reduced to the f.o.b. refinery equivalent, Atlantic seaboard. On f.a.s. transactions we deduct 0.075c, for lighterage, etc., to arrive at the f.o.b. refinery quotation.

Quotations for copper are for ordinary forms of wirebars and ingot bars. The premiums on special shapes, effective in most instances on deliveries beginning Jan. 1, 1951, are: Standard ingots 0.125c per pound; slabs 0.375c and up, cakes 0.425c and up, depending on weight and dimensions; billets 1.35c and up, depending on dimensions and quality. Discount on cathodes 0.125c to 0.15c per pound.

Quotations for zinc reflects sales of the Prime Western grade as well as sales of other grades when sold on a Prime Western basis. Premiums obtaining over Prime Western zinc in the East St. Louis market on the following grades, in cents per pound: Selected 0.10c; Brass Special 0.25c; Intermediate 0.5c. High Grade zinc sold on contract, delivered to the consumers' plant, commands a premium of 1.35c per pound over the East St. Louis basis for Prime Western; on Special High Grade the premium or differential is 1.50c per pound, effective Jan. 1, 1951.

Quotations for lead are for the common grade, and are based on sales of domestically refined metal sold to domestic consumers. The differential on sales in the Chicago district is 15 points under New York; for California 20 points under New York; for New England add 7½ points to the New York basis. Corroding grade commands a premium over common lead of 10 points.

Note: The daily quotations for copper, lead and zinc are weighted averages of sales reported to E&MJ; weekly averages are arithmetical averages of the daily quotations; monthly averages are the arithmetical averages of the daily quotations.

Silver, Gold, and Sterling Exchange

Sept.	Sterling Exchange	Silver New York	Silver London	London Gold (a)
15	278.5758	90.750	79.500d.	251s. ¾d.
16	278.4910	90.750	79.500d.	251s. 1¼d.
17		Not Quoted		
19	278.6116	90.750	79.500d.	251s. 1d.
20	278.5937	90.750	79.500d.	251s. 0d.
21	278.6250	90.750	79.500d.	250s. 11½d.
Av.	278.579	90.750	(a) Open market	

The daily silver quotation reported by Handy & Harman, in cents and fractions of a cent per troy ounce, is the price paid by Handy & Harman in settlement for silver contained in unrefined silverbearing materials submitted to them for refining. It is determined on the basis of offers of bar silver .999 fine as made to Handy & Harman for nearby delivery at New York by regular suppliers in quantities sufficient to meet daily requirements, and it is usually one quarter cent below the price at which such offers are made.

The Treasury's purchase price of newly mined domestic silver was established at 90.5c per troy ounce, 1000 fine, effective on July 1, 1946 under an amendment to the Silver Purchase Act of July 6, 1939.

London silver quotations are in pence per troy ounce, basis .999 fine.

London gold quotations are per troy ounce, basis 1000 fine.

Sterling, in cents, N. Y. Federal Reserve Bank average of noon buying rates.

THIS WEEK'S BUSINESS INDICATORS

	Latest Week	Preceding Week	Month Ago	Year Ago	Net Change Year Ago
Steel Rate (% of capacity in operation)	(d) 95.7	95.7	90.6	68.7	+27
Steel Ingot Production, thousands of tons	(d) 2,309	2,309	2,186	1,637	+672
Automobile Production (cars and trucks)	(d) 145,437	(a) 98,546	165,094	74,026	+71,411
Electric Power Output (millions kwh.)	10,155	10,706	10,925	8,808	+1,347
Engr'g Const. Awards, 4-week daily av., in thousands (c)	$66,094	$58,805	$51,653	$54,118	+$11,976
Federal Reserve Index of Industrial Production (e)	(d) 140 Aug.	....	(a) 139	124	+16
E&MJ Index of Nonferrous Metal Prices (b)	217.57 Aug.	....	209.84	184.65	+32.92
All Commodities, Bureau of Labor Statistics (e)	(a) 110.8 Aug.	....	110.6	110.5	+0.3

(a) Revised. (b) 100 is composite of 1922-3-4. (c) From Eng. News-Record. (d) Preliminary. (e) Base period 1947-49

London Metal Exchange

Sept.	COPPER Cash Bid	COPPER Cash Asked	COPPER 3 Mo. Bid	COPPER 3 Mo. Asked	LEAD Current Month Bid	LEAD Current Month Asked	LEAD 3 Mo. Bid	LEAD 3 Mo. Asked	ZINC Current Month Bid	ZINC Current Month Asked	ZINC 3 Mo. Bid	ZINC 3 Mo. Asked	TIN Cash Bid	TIN Cash Asked	TIN 3 Mo. Bid	TIN 3 Mo. Asked
15	382	382½	377½	378	107½	107¾	107¼	107½	92¼	92½	91¾	92	747½	748	748	748½
16	379	380	374	375	107¼	107¾	107	107½	92	92¼	91¾	92	750	750½	751	751½
19	374	374½	370	371½	107¼	107⅜	106¾	107	91¾	92	91¼	91½	751	751½	751½	752
20	376	377	374	375	106½	106¾	106¼	106½	91¼	91½	91	91¼	754	755	755	756
21	379	380	376	376½	106¾	107	106½	107	92	92¼	91¾	92	757½	758½	757½	758½

Prices are for the official a.m. session in pounds sterling per ton of 2240 lb. Copper basis wire bars, lead 99.97%, zinc 98% and tin min. 99.75%.

Note: For lead average, Monterrey, see page 11; U.S. Gold, see page 5.

Non-Metallic Minerals

Prices received for non-metallic minerals vary widely and depend upon the physical and chemical characteristics of the commodity. Hence the following quotations can serve only as a general guide to the prices obtained by producers and dealers in different parts of the United States for their own product.

Tons of 2,000 lb unless otherwise noted.

ASBESTOS—Per short ton, f.o.b. mines Quebec, U.S. funds:

Crude No. 1 $960@$1,500; Crude No. 2 $595@$900.

Spinning fibers: 3-F $514; 3-K $436; 3-R $371; 3-T $348; 3-Z $321.

Shingle stock, $150@$200; Paper stock, $109@$137; Waste, $77; Shorts, $35@$70.

Per short ton, f.o.b. Vancouver, B.C., U.S. funds:

Spinning fiber (3-K) $460; shingle fiber (4-K) $185.

Per ton, f.o.b. Hyde Park or Morrisville, Vt.:

Spinning fiber, $279.50@$302; shingle fiber, $135@$162; paper fiber, $81.50@$115; waste, stucco or plaster, $71.40; refuse or shorts, $34@$63.

BARYTES — F.o.b. cars.

Georgia: Barytes ore, crude, jig and lump, $15 per net ton; beneficiated, $17@$19 per net ton, in bulk, $21.50 in bags.

Missouri: Per ton, water ground and floated, bleached, $41.35, carlots, f.o.b. works. Crude ore, minimum 94% $BaSO_4$, less than 1% iron $13.25.

Canada: Crude, in bulk, f.o.b. shipping point, $11 per long ton; ground, in bags, $16.50 per short ton.

BAUXITE — Per long ton. Domestic ore chemical, crushed and dried, 55 to 58% Al_2O_3, 1.5 to 2.5% Fe_2O_3, $8.00@$8.50, f.o.b. Alabama and Arkansas mines. Other grades, 56 to 59% Al_2O_3, 5 to 8% SiO_2, $8.00@$8.50, f.o.b. Arkansas mines. Pulverized and dried, 56 to 59% Al_2O_3, 8 to 12% SiO_2, $14@$16, f.o.b. Arkansas mines. Abrasive grade, crushed and calcined, 80 to 84% Al_2O_3, $17, f.o.b. Arkansas mines. Crude (not dried) 50 to 52%, $5.00@$5.50, f.o.b. Arkansas mines.

Imported bauxite, calcined, crushed (abrasive grade) 83 to 86% Al_2O_3, $19.75 per long ton, f.o.b. port of shipment, Br. Guiana. Refractory grade bauxite, $24.20.

CORUNDUM—Per ton, crude, c.i.f. U.S. ports, $100 to $120, nominal.

FELDSPAR — per ton, f.o.b. point of shipment, N. C., bulk: 200 mesh, $18.50; 325 mesh, $22.50; glass, No. 18 grade, $12.50; semi-granular, $11.75.

FLUORSPAR—Metallurgical grade, effective CaF_2 content, per short ton, f.o.b. shipping point Illinois and Kentucky:

	Short Ton
72½%	$33.00
70%	$32.00
60% plus	$28.00
Pellets, 60%	Nom'l

Acid grade concentrates, per short ton, bulk, carload lots:

F.o.b. Rosiclare, Ill., $47.50.

Ceramic grade, min. 94% CaF_2, calcite and silica variable; Fe_2O_3 0.14%, $45 per short ton, in bulk, f.o.b. Rosiclare. In 100-lb bags $4 extra.

European fluorspar c.i.f. U.S. ports, duty paid, per short ton: Metallurgical grade, 70% effective CaF_2, $32@$33; acid grade, $50.00@$52.50, nominal.

Mexican fluorspar, f.o.b. border, metallurgical, 72½% effective CaF_2 content, all rail, duty paid, $25.75 per short ton; barge, Brownsville, Tex., $27.00@$27.25.

GRAPHITE — Per lb, carload lots, f.o.b. shipping point:

Crystalline flake, natural; 85-88% C, crucible grade, 13c; 96% C, special and dry usage, 22c; 94% C, normal and wiredrawing, 19c; 98% C, special for brushes, etc., 26½c.

Amorphous, natural, for foundry facings, etc., up to 85% C, 9c.

Madagascar, c.i.f. New York, "standard grades 85 to 87% C," $235 per ton; special mesh $260; special grade 99% C, nominal.

Amorphous graphite, Mexican, f.o.b. point of shipment (Mex.), per metric ton $9 to $16 depending on grade.

KYANITE—Per ton f.o.b. point of shipment, Va. and S.C., 35 mesh, carload lots, in bulk $29; in bags $32. For 200 mesh, in bags, carload lots, $40.

Imported kyanite, 55 to 59% grade, in bags, c.i.f. Atlantic ports $52@$56 per short ton.

MAGNESITE—Per ton, f.o.b. Chewelah, Wash., dead burned grain, in bulk $38.00; in bags $43.75.

MICA — Prices prevailing in the North Carolina district for clear sheet mica, per pound, follow:

Size	Per Pound
1½ x 2 inch	.70 to $1.60
2 x 2 "	$1.10 to $1.60
2 x 3 "	$1.60 to $2.00
3 x 3 "	$1.80 to $2.30
3 x 4 "	$2.00 to $2.60
3 x 5 "	$2.60 to $3.00
4 x 6 "	$2.75 to $4.00
6 x 8 "	$4.00 to $8.00

Punch mica, 10@16c per pound, according to size and quality.

Stained or electric sheet mica is being sold at approximately 10 to 15% lower than for clear.

North Carolina, wet ground, $140 to $155 per ton, depending on fineness and quantity. Dry ground, $32.50 to $70. Scrap, $25 to $30, depending on quality.

Madagascar sheet mica first quality high heat, duty paid, New York, per lb:

Grade 7 (below 1 sq in.) 50c; Grade 6 (1 to 1½) 85c; Grade 5 (3 to 6) $1.20; Grade 4 (6 to 10) $1.50; Grade 3 (10 to 14) $1.90.

MONAZITE — Per lb, c.i.f. U. S. ports, 55% total rare earth oxides, including thorium, massive, 13c. Sand, 55% grade, 18c; 66%, 20c; 68%, 22c.

OCHER — Per ton, f.o.b. Georgia mines, $26.50@$30.00 in 100-lb paper bags.

F.o.b. Virginia, dark yellow, 300 mesh, 60% ferric oxide, in bags, $24.50@$25.50.

PHOSPHATE — Per long ton, f.o.b. mines:

Florida, pebble; 77@76% $7.00; 75@74%, $6.00; 72@70%, $5.00; 70@68%, $4.35; 68@66%, $3.95.

POTASH — Per unit, f.o.b. mines. Muriate, 43@45½c, basis 60% K_2O; manure salt, 21c, basis 22% K_2O.

PYRITES — Spanish 48% sulphur c.i.f. U.S. ports, not quoted.

Domestic and Canadian pyrites, per long ton, nominal at $9@$11, delivered to consumer's plant.

PUMICE STONE — per lb f.o.b. New York or Chicago, in barrels, powdered 3@5c; lump, 6@8c.

QUARTZ ROCK CRYSTALS—For fusing, all sizes, $100@$150 per ton. Prisms for piezo-electrical and optical use $4.50 to $50 per pound, according to size and grade.

SILICA — Per ton, air-floated, 92-99½% through 325 mesh, in bags, $22 to $35. Glass sand, f.o.b. producing plant, $1.50@$5 per ton, bulk, depending on grade, etc.

SULPHUR — Per long ton for domestic market, $25.50@$27.50 f.o.b. Texas mines.

TALC—Per ton carload lots, f.o.b. works, containers included unless otherwise specified:

Georgia: 98% through 200 mesh, gray, $10.50@$11; white, $12.50@$15, packed in paper bags.

New Jersey: Mineral pulp, ground, $10.50@$12.50, bags extra.

New York: Double air-floated, short fiber, 325 mesh, $18@$20.

Vermont: 100% through 200 mesh, extra white, bulk basis, $12.50; 99½% through 200 mesh, medium white, $11.50@$12.50. Packed in paper bags, $1.75 per ton extra.

Virginia: 200 mesh, $10@$12; 325 mesh, $12@$14; crude, $5.50.

TRIPOLI — Per ton, paper bags, minimum carload 30 tons, f.o.b. Missouri: Once ground through 40 mesh, rose and cream colored, $30.00. Double ground through 110 mesh, rose and cream, $32.00; air-floated through 200 mesh, $35.00.

VERMICULITE — Per ton, f.o.b. mines, Montana, $9.50@$18.00. South African crude, $30@$32, c.i.f. Atlantic ports.

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Alloys

FERROCHROMIUM — Per lb of Cr: High carbon (4-9% C) 65-69% Cr, lump, carloads f.o.b. destination continental U.S.A. 26¼c; low carbon, 0.01C, 32¾c.

FERROCOLUMBIUM — Per lb of Cb contained, 50-55%, $6.80@$6.90.

FERROMANGANESE—Per net (short) ton, 74-76% Mn, $190, f.o.b. shipping point seaboard and major domestic producing points.

FERROMOLYBDENUM, Etc. — Per lb of Mo contained, f.o.b. shipping point: Ferromolybdenum, 58-64% Mo, powdered, $1.57, all other sizes $1.46; calcium molybdate ($CaO\ MoO_3$), $1.28; technical molybdic trioxide (MoO_3), bagged, $1.24, canned, $1.25.

Quantity extras, subject to change without notice, follow:

5,000 lb or more, base price; 1,000 lb up to 4,999 lb, 2c; 500 lb up to 999 lb, 3c; 100 lb up to 499 lb, 6c; 25 lb up to 99 lb, 6c plus $5 packing charge.

FERROPHOSPHORUS — Per gross ton, 23-25% P, carloads f.o.b. Siglo, Mt. Pleasant, Tenn., $90. Unitage of $4 for each 1% of P above or below the 24% base.

FERROSILICON — Per lb of contained Si, f.o.b. shipping point: 50% grade 11¾c; low-aluminum 12.95c.

FERROTITANIUM LOW-CARBON — Per lb of Ti contained: 25%, 0.10% C, $1.50; 40%, 0.10% C, $1.35, f.o.b. destination east of Mississippi River.

FERROTUNGSTEN — Per lb of W contained, 72-82% W, $3.45 in lots of 5,000 lb or more. Effective on contract business, Sept. 1.

FERROVANADIUM — Per lb of V contained: Open hearth, $3.10; crucible, $3.20; low-carbon and silicon, $3.40.

SILICOMANGANESE — Per lb carload lots, f.o.b. shipping point, bulk: 65-68% Mn, max. 1½% C, 18-20% Si 11.2c; max. 2% C, 15-17½ Si, 11c; max. 3% C, 12-14½% Si, 10.8c.

SPIEGELEISEN—Per gross ton, carload lots, f.o.b. Palmerton, Pa.: 16-19% Mn, 3% max. Si, $84; 19-21% Mn, $86; 21-23% Mn, $88.50; 23-25% Mn, $91.

ZIRCONIUM ALLOY — 12-15% Zr, 39-43% Si, 8½c per lb, bulk, carload lots: 35-40% Zr, 47-52% Si, 21.25c per lb.

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Brass and Bronze Shipments

Shipments of ingot brass and bronze, according to the Defense Council of the ingot brass and bronze industry, in tons, for 1954 and 1955 follow:

	1954	1955
January	20,661	25,201
February	19,920	25,349
March	23,653	29,713
April	24,746	27,641
May	22,269	23,708
June	22,348	23,141
July	17,074	18,513
August	21,684	27,013
September	22,464	.....
October	24,080	.....
November	23,061	.....
December	21,273	.....
Totals	263,233	.....

The Council estimates these figures represent more than 95% of the industry.

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Kaiser Buys Extrusion Plant

Kaiser Aluminum and Chemical Co. purchased for $3,841,000 the aluminum extrusion plant at Halethorpe, Md., which it had been leasing since 1951 from the Government.

The plant, built during the war, has 270,000 sq ft of space and includes five extrusion presses ranging from 500 tons to 4,400 tons.

Immediately adjacent to the Halethorpe plant, Kaiser is also scheduled to operate a new Air Force facility housing two 8,000-ton extrusion presses.

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Germany's Aluminum Output

West Germany produced 90,700 metric tons of virgin aluminum in the first eight months of the current year, against 84,200 tons in the comparable period a year before, according to producers' estimates. They forecast production for the current year at 137,000 tons, Reuters reports.

Secondary aluminum output is expected to reach 80,000 tons, so that domestic consumers will dispose of 220,000 tons of home-produced aluminum for the year. However, this will not be enough to cover domestic consumption.

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Continuous Cast Bronze

J. M. Tull Metal & Supply Co., Atlanta, Ga., has been appointed distributor in Georgia for Asarco continuous cast bronze products. The Perth Amboy plant of the American Smelting & Refining Co. is turning out more than 1-million pounds a month of copper-base shapes produced by this patented process.

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Brass and Bronze Ingot

85-5-5-5 (No. 115) 42½c; 80-10-10 (No. 305) 45¾c; 88-10-2 (No. 215) 55¼c. Yellow, 34¾c and upward. Manganese bronze (No. 421) 38¼c.

Tri-State Concentrates

Joplin, Sept. 21, 1955

Blende	*Per Ton*
Prime coarse (60% zinc)	(a) 80.00
Flotation, 60% zinc	(a) 80.00
Galena	
Coarse and flotation, 80% lead	$187.85

(a) Effective Sept. 9, 1955.

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Lead Average (Monterrey)

The net price realized by the American Smelting & Refining Co. on all of its sales of Mexican pig lead, including metal sold for consumption in Mexico, during the week ended Sept. 10, 1955, was 12.76c (U.S.) per lb, f.o.b. refinery Monterrey, Mex.

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Smelters' Aluminum Alloys

Delivered prices of smelters' aluminum ingot per pound, in lots of 10,000 lb. or more.

Piston alloy 31½@32c; No. 12 alloy 30½@31c; No. 13 alloy, max. .30 copper, 32¼@32¾c.

Deoxidizing grades: No. 1, 31@31½c; No. 2, 30½@31c; No. 3, 29@29½c; No. 4, 28½@29c.

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Smelters' Copper Scrap Prices

Custom smelters' buying prices for scrap, carload lots, refinery:

No. 1 copper and wire, 44c; No. 2 heavy copper 42½c; light copper, 40c refinery brass, 38½c.

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Dealers' Scrap Prices

Dealers' buying prices, f.o.b. New York or equivalent freight points, for wholesale quantities, in cents per lb.

No. 1 copper wire	39@39½
Heavy copper & wire, mixed	36½@37
Light copper	34½@35
No. 1 composition	30@30½
Composition turnings	29@29½
Light brass	19½@20
Yellow brass turnings, mix	19½@20
Heavy yellow brass, mixed	21½@22
Auto radiators, unsweated	24@24½
Brass pipe, cut	24½@25
Rod brass turnings, No. 1	23@23½
Rod ends, brass	23@23½
New soft brass clips	24½@25
Cast aluminum, mixed	15½@16
Aluminum crankcases	15½@16
Aluminum clips, new soft	18½@19
Sheet aluminum, old clean	15@15½
Aluminum turnings, clean	10½@11
Zinc die cast, mixed	3¾@4½
Zinc die cast, new	5¼@5¾
Old zinc	5¼@5¾
New zinc clips	7¼@7½
Soft or hard lead	11½@12
Battery plates	6½@6¾
Babbitt mixed	14@14½
Linotype or stereotype	14@14½
Electrotype	12½@13
Solder joints close cut	18@18½
Block tin pipe	80@81
Autobearing babbitt	46@48
Monel clips, new	34@36
Monel sheet, clean	34@36
Nickel, rod ends	80@82
Nickel, clippings	80@82

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Antimonial Lead • Copper Anodes
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Gold, Silver, Copper, Zinc and Lead Ores, Sweeps, Mattes and Bullion, Copper and Brass Scrap, Copper Bearing Material, Zinc Drosses and Skimmings, Lead Scrap and Residues, Lead Covered Cable, Tin Bearing Material and Automobile Radiators.

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Fire Refined CFR*

zinc

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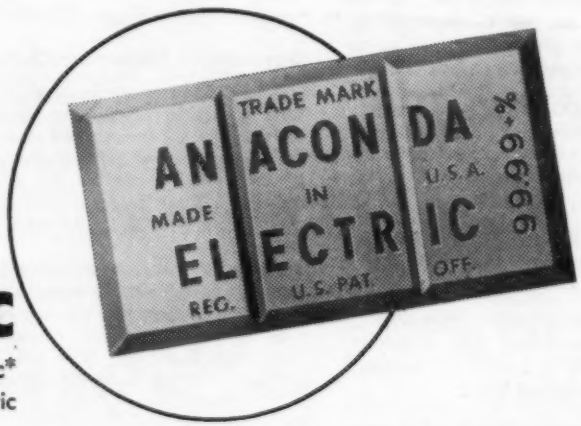
High Grade Electrolytic



lead

Common Desilverized ILR*

NODULIZED MANGANESE ORE
FERROMANGANESE STANDARD GRADE
CADMIUM • SILVER • BISMUTH • INDIUM
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